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tgl onednn y

Intel Core i7-1185G7 testing with a Dell 0DXP1F (3.7.0 BIOS) and Intel Xe TGL GT2 15GB on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 57% of the tests.

Based on the geometric mean of all complete results, the fastest (A) was 1.029x the speed of the slowest (C). B was 0.988x the speed of A and C was 0.984x the speed of B.

The results with the greatest spread from best to worst included:

oneDNN (Harness: Deconvolution Batch shapes_1d - Data Type: f32 - Engine: CPU) at 1.328x
oneDNN (Harness: IP Shapes 1D - Data Type: u8s8f32 - Engine: CPU) at 1.251x
oneDNN (Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU) at 1.164x
oneDNN (Harness: Deconvolution Batch shapes_3d - Data Type: bf16bf16bf16 - Engine: CPU) at 1.11x
oneDNN (Harness: Deconvolution Batch shapes_3d - Data Type: f32 - Engine: CPU) at 1.025x
oneDNN (Harness: IP Shapes 1D - Data Type: bf16bf16bf16 - Engine: CPU) at 1.02x
oneDNN (Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU) at 1.019x
Y-Cruncher (Pi Digits To Calculate: 1B) at 1.015x
Y-Cruncher (Pi Digits To Calculate: 500M) at 1.014x

oneDNN (Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU) at 1.013x.

Test Systems:

A

B

C

Processor: Intel Core i7-1185G7 @ 4.80GHz (4 Cores / 8 Threads), Motherboard: Dell 0DXP1F (3.7.0 BIOS), Chipset: Intel Tiger Lake-LP, Memory: 16GB, Disk: Micron 2300 NVMe 512GB, Graphics: Intel Xe TGL GT2 15GB (1350MHz), Audio: Realtek ALC289, Network: Intel Wi-Fi 6 AX201

OS: Ubuntu 22.04, Kernel: 5.18.8-051808-generic (x86_64), Desktop: GNOME Shell 42.2, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.0.1, Vulkan: 1.3.204, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 1920x1200

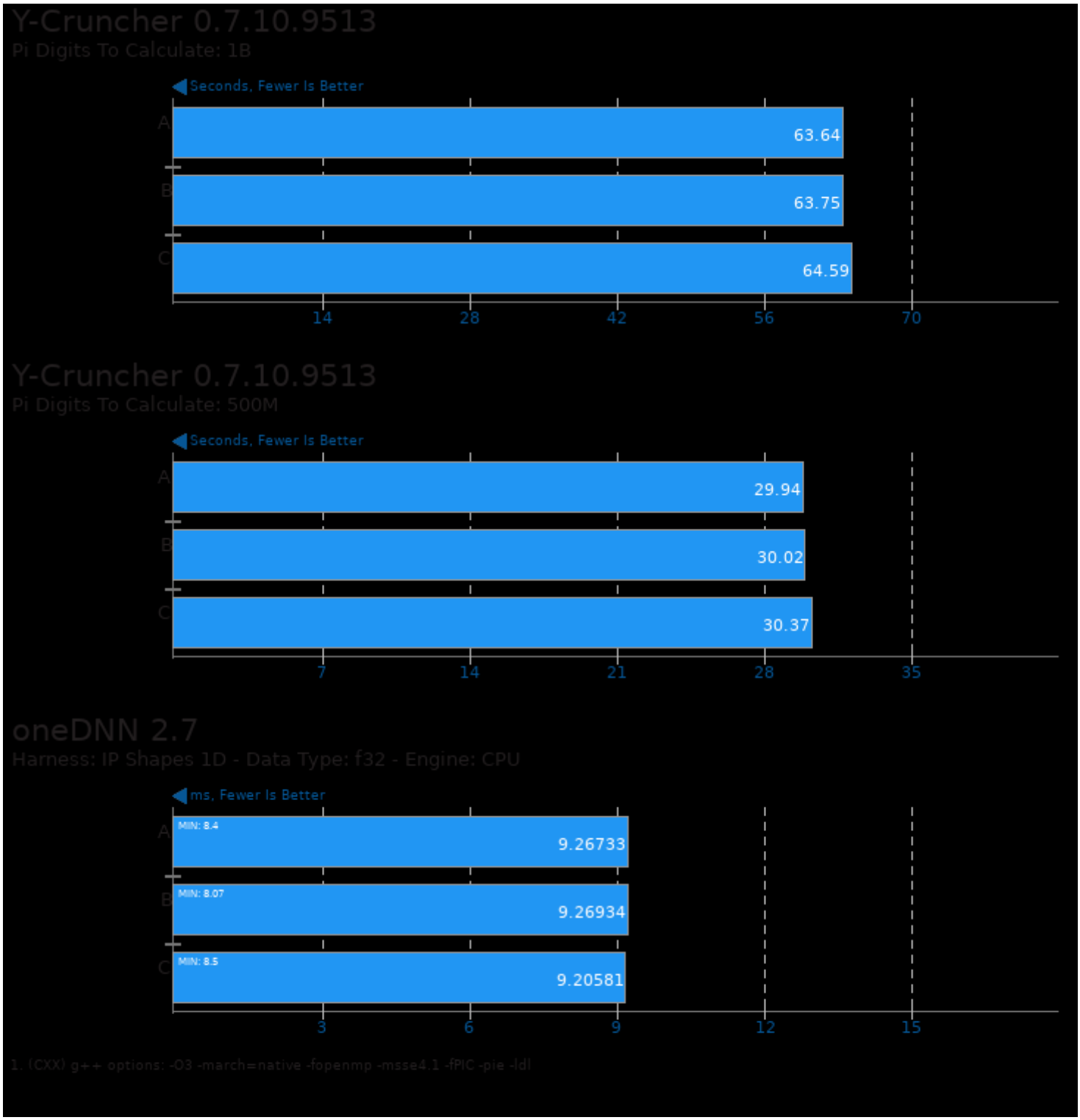
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-gcn/usr --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xa4 - Thermald 2.4.9
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	A	B	C
Y-Cruncher - 1B (sec)	**63.635**	63.748	**64.585**
Normalized	100%	99.82%	98.53%
Y-Cruncher - 500M (sec)	**29.937**	30.016	**30.365**
Normalized	100%	99.74%	98.59%
oneDNN - IP Shapes 1D - f32 - CPU (ms)	9.26733	**9.26934**	**9.20581**
Normalized	99.34%	99.31%	100%
oneDNN - IP Shapes 3D - f32 - CPU (ms)	**5.9608**	5.99099	**6.07556**
Normalized	100%	99.5%	98.11%
oneDNN - IP Shapes 1D - u8s8f32 - CPU (ms)	**1.53742**	1.53887	**1.92343**
Normalized	100%	99.91%	79.93%
oneDNN - IP Shapes 3D - u8s8f32 - CPU (ms)	**2.35853**	**2.38843**	2.36968
Normalized	100%	98.75%	99.53%

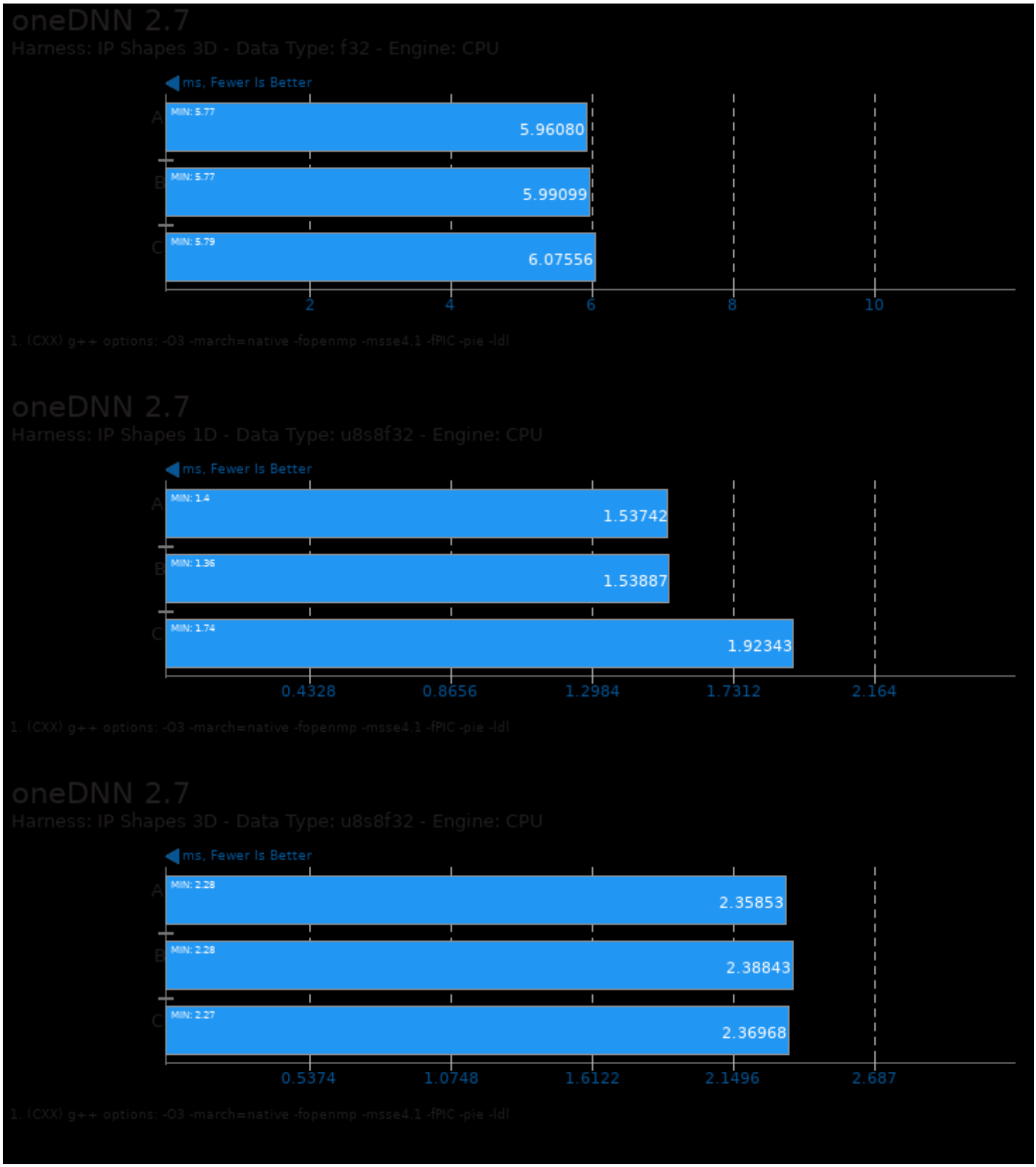
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oneDNN - IP Shapes 1D - bf16bf16bf16 - CPU (ms)	**18.123**	17.8895	**17.7609**
Normalized	98%	99.28%	100%
oneDNN - IP Shapes 3D - bf16bf16bf16 - CPU (ms)	**6.00103**	6.00493	**6.01453**
Normalized	100%	99.94%	99.78%
oneDNN - C.B.S.A - f32 - CPU (ms)	8.70824	**8.5618**	**9.96585**
Normalized	98.32%	100%	85.91%
oneDNN - D.B.s - f32 - CPU (ms)	**12.3665**	15.7799	**16.4287**
Normalized	100%	78.37%	75.27%
oneDNN - D.B.s - f32 - CPU (ms)	**10.2656**	**10.0176**	10.0701
Normalized	97.58%	100%	99.48%
oneDNN - C.B.S.A - u8s8f32 - CPU (ms)	**8.02112**	7.94531	**7.92157**
Normalized	98.76%	99.7%	100%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	**2.05873**	**2.05165**	2.05688
Normalized	99.66%	100%	99.75%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	**2.417**	2.42192	**2.42499**
Normalized	100%	99.8%	99.67%
oneDNN - R.N.N.T - f32 - CPU (ms)	7114	**7105**	**7144**
Normalized	99.87%	100%	99.45%
oneDNN - R.N.N.I - f32 - CPU (ms)	**3703**	3708	**3714**
Normalized	100%	99.86%	99.69%
oneDNN - R.N.N.T - u8s8f32 - CPU (ms)	**7177**	7179	**7185**
Normalized	100%	99.97%	99.89%
oneDNN - C.B.S.A - bf16bf16bf16 - CPU (ms)	**50.9551**	**50.907**	50.9527
Normalized	99.91%	100%	99.91%
oneDNN - D.B.s - bf16bf16bf16 - CPU (ms)	**62.4442**	**62.2819**	62.3249
Normalized	99.74%	100%	99.93%
oneDNN - D.B.s - bf16bf16bf16 - CPU (ms)	**36.8547**	**40.9075**	40.138
Normalized	100%	90.09%	91.82%
oneDNN - R.N.N.I - u8s8f32 - CPU (ms)	**3681**	**3684**	3683
Normalized	100%	99.92%	99.95%
oneDNN - M.M.B.S.T - f32 - CPU (ms)	**3.19117**	3.19712	**3.20607**
Normalized	100%	99.81%	99.54%
oneDNN - R.N.N.T - bf16bf16bf16 - CPU (ms)	7182	**7189**	**7182**
Normalized	99.99%	99.9%	100%
oneDNN - R.N.N.I - bf16bf16bf16 - CPU (ms)	**3707**	3705	**3703**
Normalized	99.89%	99.94%	100%
oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)	**1.42**	**1.43205**	1.43122
Normalized	100%	99.16%	99.22%
oneDNN - M.M.B.S.T - bf16bf16bf16 - CPU (ms)	**10.7597**	**10.7936**	10.7754
Normalized	100%	99.69%	99.85%

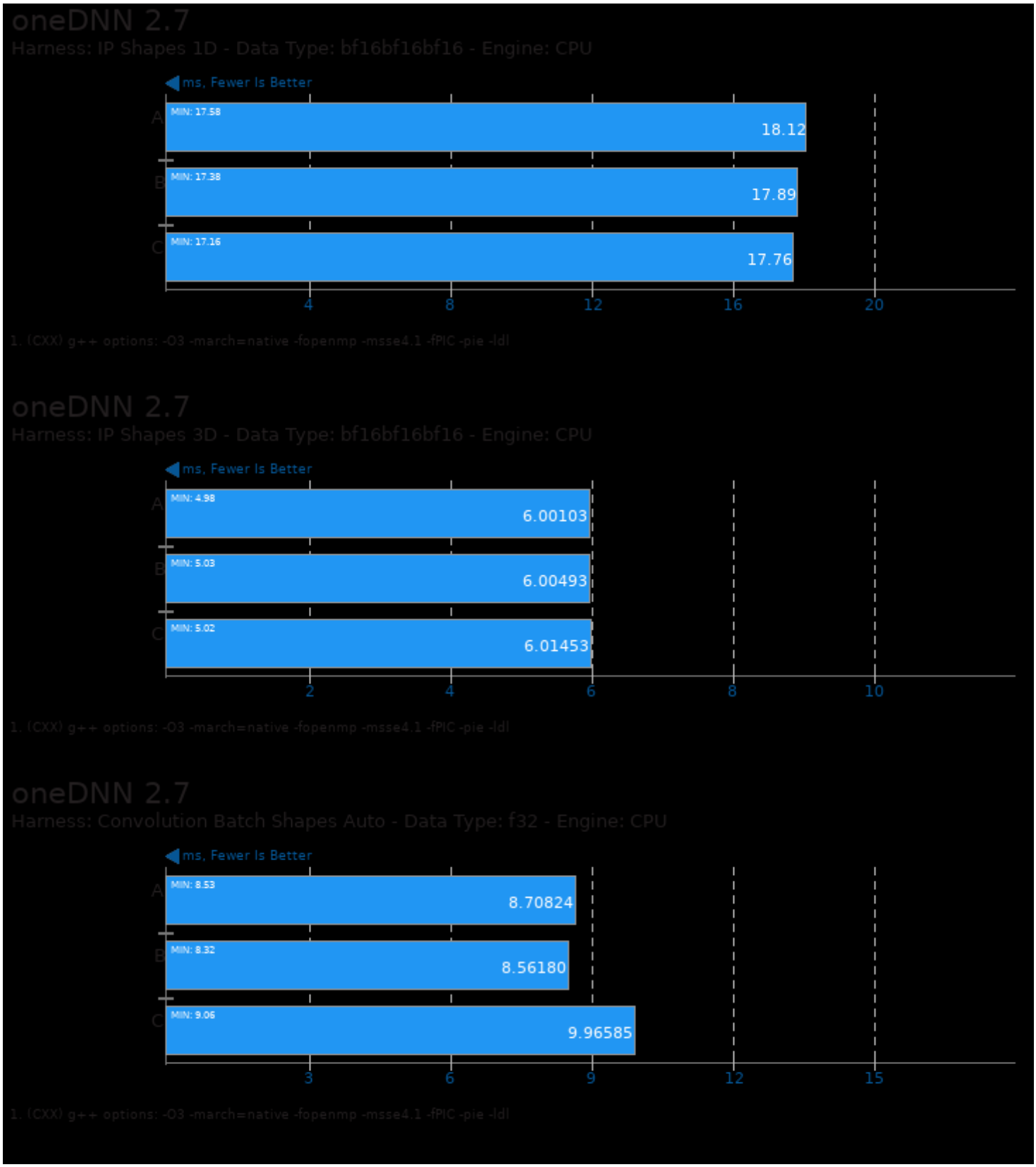
tgl onednn y


Y-Cruncher 0.7.10.9513
Pi Digits To Calculate: 1B
Seconds, Fewer Is Better
A
B
C
63.64
63.75
64.59
14
28
42
56
70
Y-Cruncher 0.7.10.9513
Pi Digits To Calculate: 500M
Seconds, Fewer Is Better
A
B
C
29.94
30.02
30.37
7
14
21
28
35
oneDNN 2.7
Harness: IP Shapes 1D - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 8.4
9.26733
B
MIN: 8.07
9.26934
C
MIN: 8.5
9.20581
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl

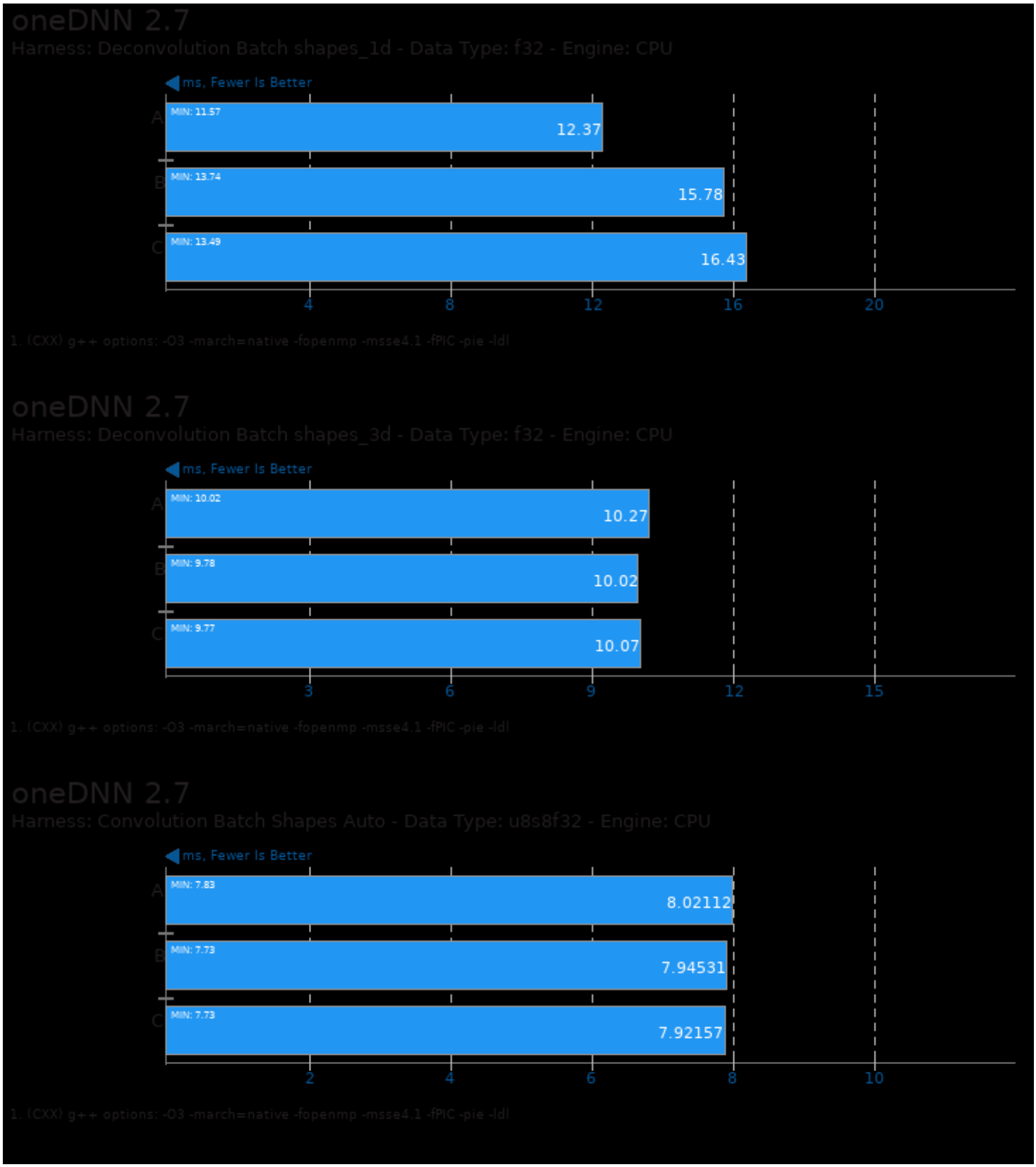
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oneDNN 2.7
Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 5.77
5.96080
B
MIN: 5.77
5.99099
C
MIN: 5.79
6.07556
2
4
6
8
10
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: IP Shapes 1D - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 1.4
1.53742
B
MIN: 1.36
1.53887
C
MIN: 1.74
1.92343
0.4328
0.8656
1.2984
1.7312
2.164
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 2.28
2.35853
B
MIN: 2.28
2.38843
C
MIN: 2.27
2.36968
0.5374
1.0748
1.6122
2.1496
2.687
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl

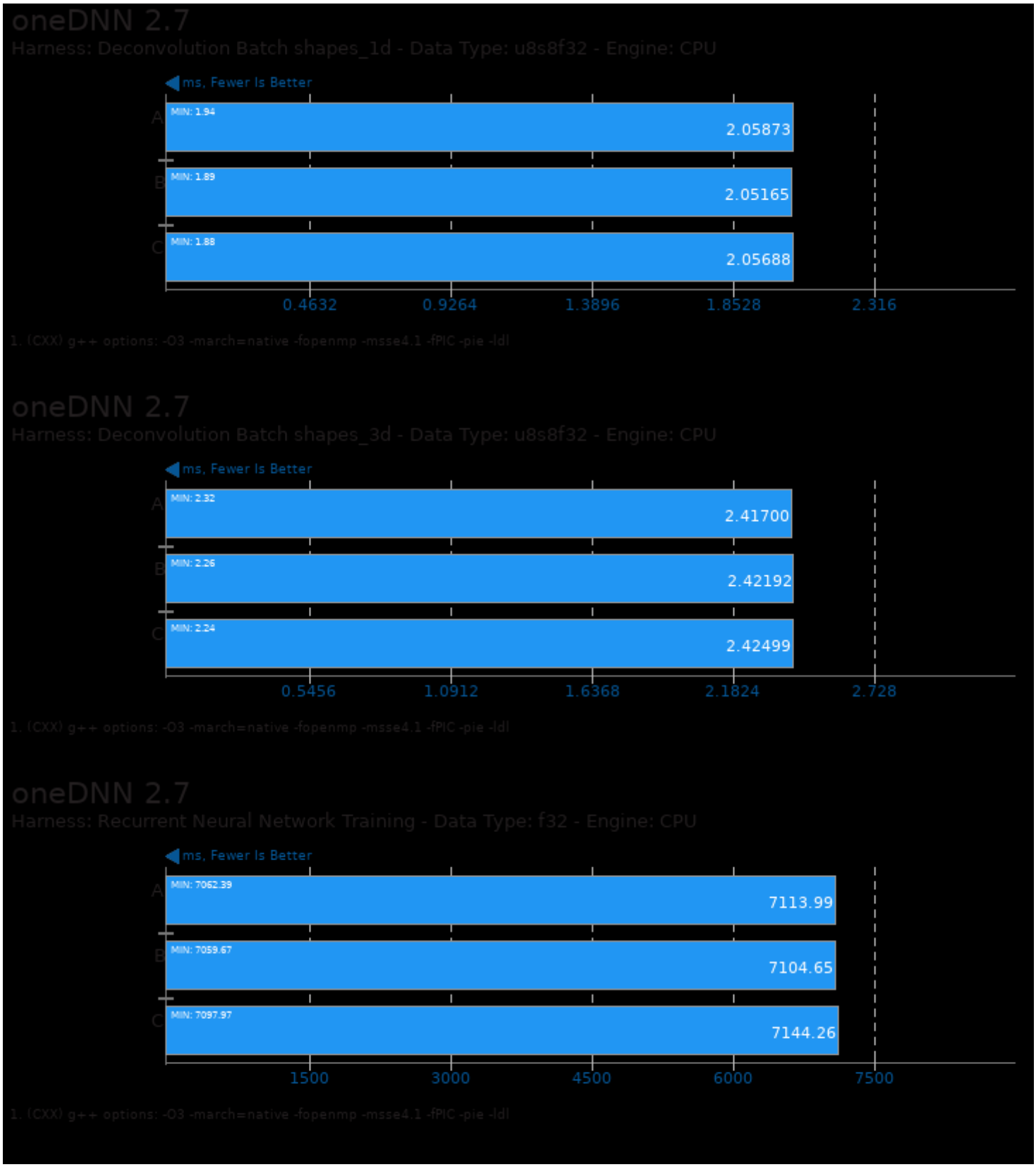
tgl onednn y


oneDNN 2.7
Harness: IP Shapes 1D - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
A
MIN: 17.58
18.12
B
MIN: 17.38
17.89
C
MIN: 17.16
17.76
4
8
12
16
20
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: IP Shapes 3D - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
A
MIN: 4.98
6.00103
B
MIN: 5.03
6.00493
C
MIN: 5.02
6.01453
2
4
6
8
10
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 8.53
8.70824
B
MIN: 8.32
8.56180
C
MIN: 9.06
9.96585
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl

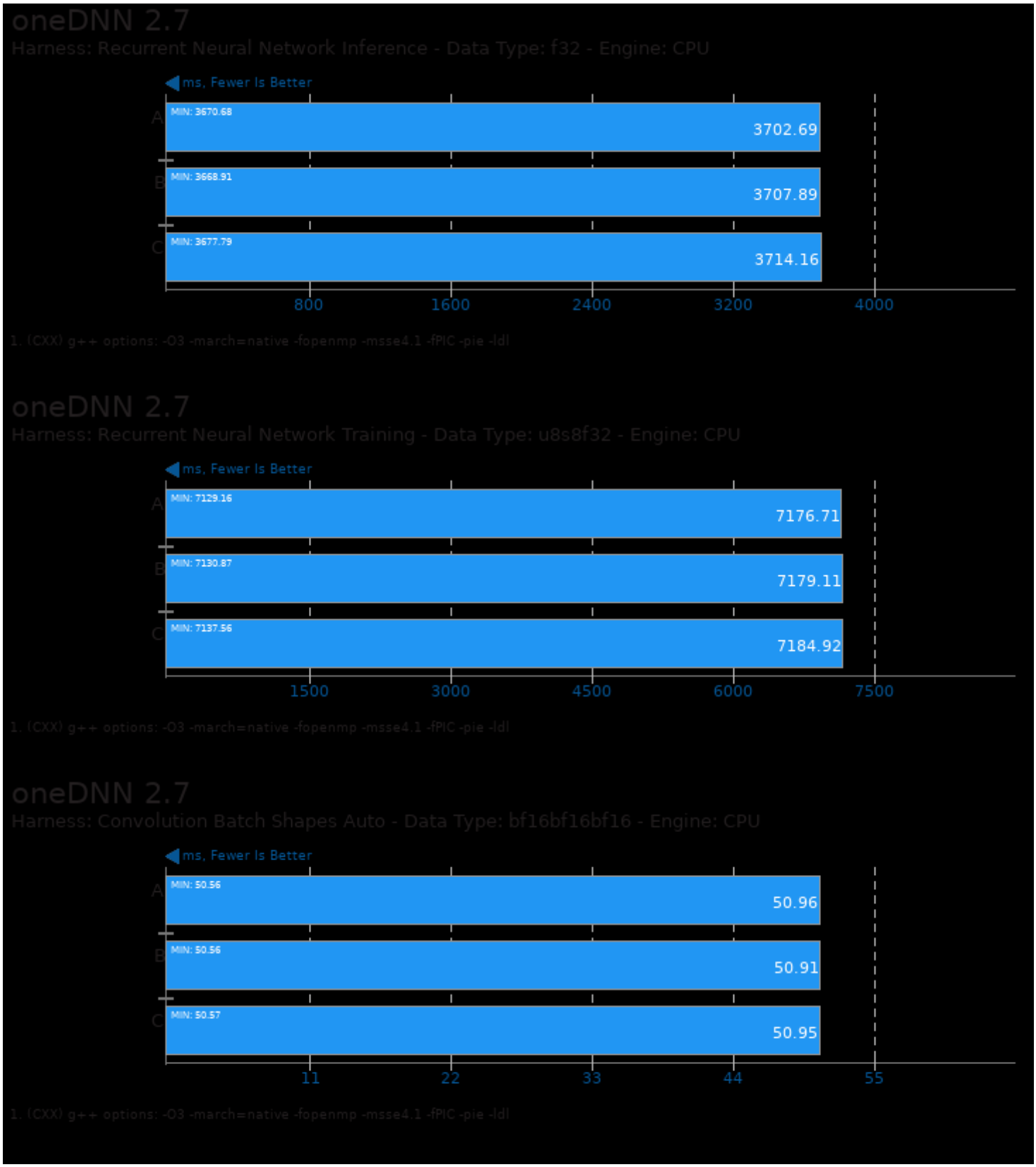
tgl onednn y


oneDNN 2.7
Harness: Deconvolution Batch shapes_1d - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 11.57
12.37
B
MIN: 13.74
15.78
C
MIN: 13.49
16.43
4
8
12
16
20
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Deconvolution Batch shapes_3d - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 10.02
10.27
B
MIN: 9.78
10.02
C
MIN: 9.77
10.07
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 7.83
8.02112
B
MIN: 7.73
7.94531
C
MIN: 7.73
7.92157
2
4
6
8
10
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl

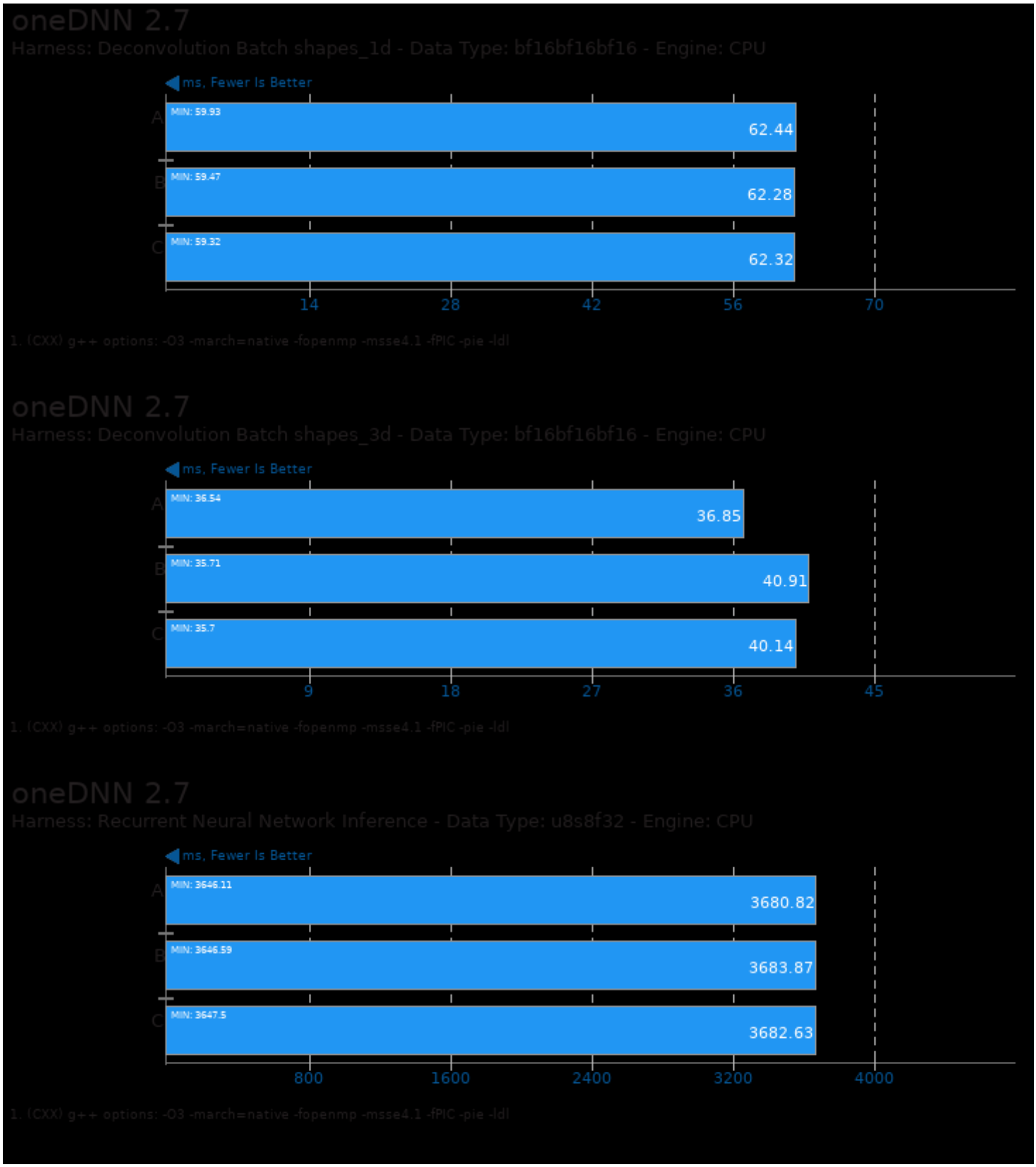
tgl onednn y


oneDNN 2.7
Harness: Deconvolution Batch shapes_1d - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 1.94
2.05873
B
MIN: 1.89
2.05165
C
MIN: 1.88
2.05688
0.4632
0.9264
1.3896
1.8528
2.316
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Deconvolution Batch shapes_3d - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 2.32
2.41700
B
MIN: 2.26
2.42192
C
MIN: 2.24
2.42499
0.5456
1.0912
1.6368
2.1824
2.728
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 7062.39
7113.99
B
MIN: 7059.67
7104.65
C
MIN: 7097.97
7144.26
1500
3000
4500
6000
7500
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl

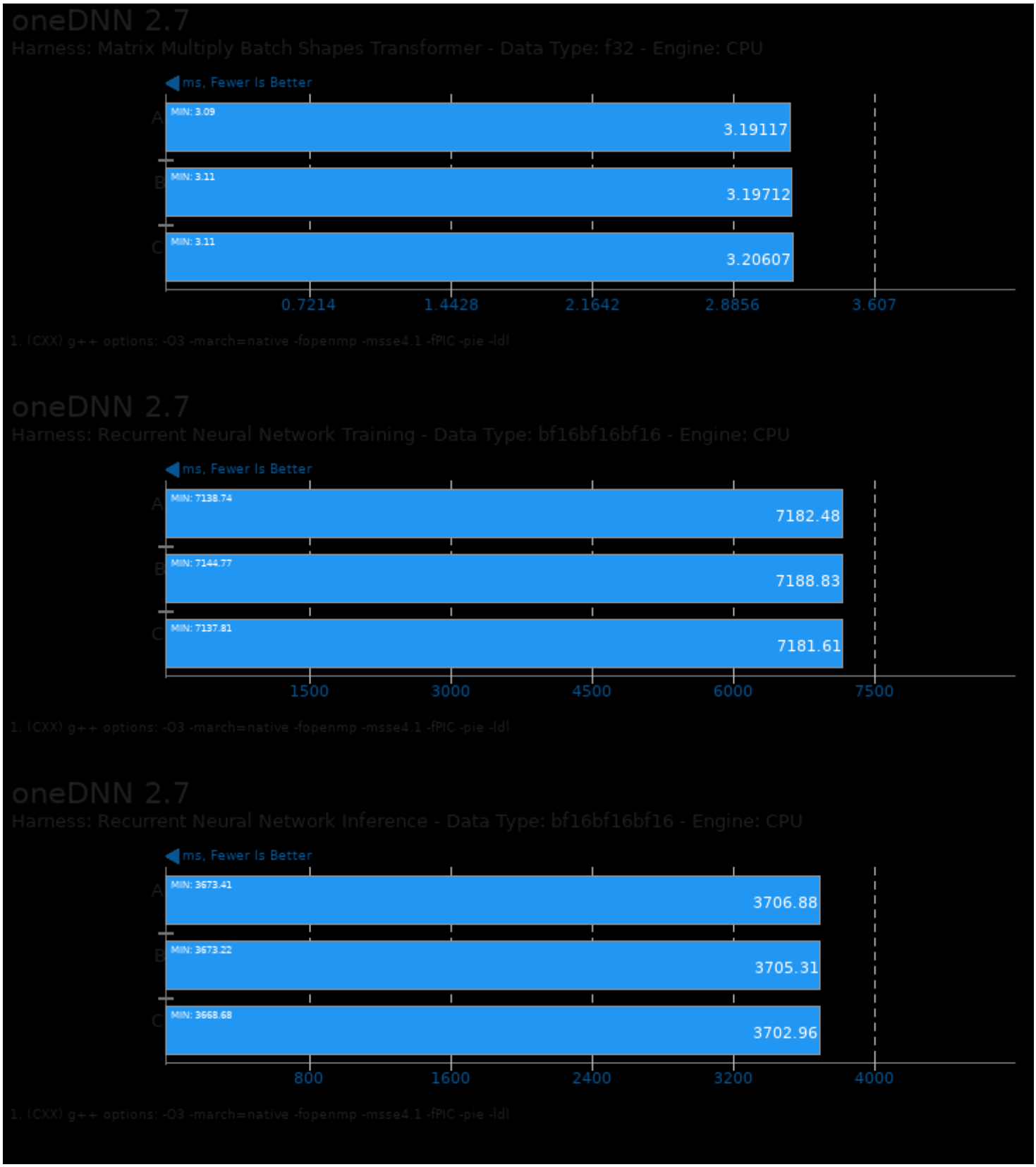
tgl onednn y


oneDNN 2.7
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 3670.68
3702.69
B
MIN: 3668.91
3707.89
C
MIN: 3677.79
3714.16
800
1600
2400
3200
4000
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 7129.16
7176.71
B
MIN: 7130.87
7179.11
C
MIN: 7137.56
7184.92
1500
3000
4500
6000
7500
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Convolution Batch Shapes Auto - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
A
MIN: 50.56
50.96
B
MIN: 50.56
50.91
C
MIN: 50.57
50.95
11
22
33
44
55
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl

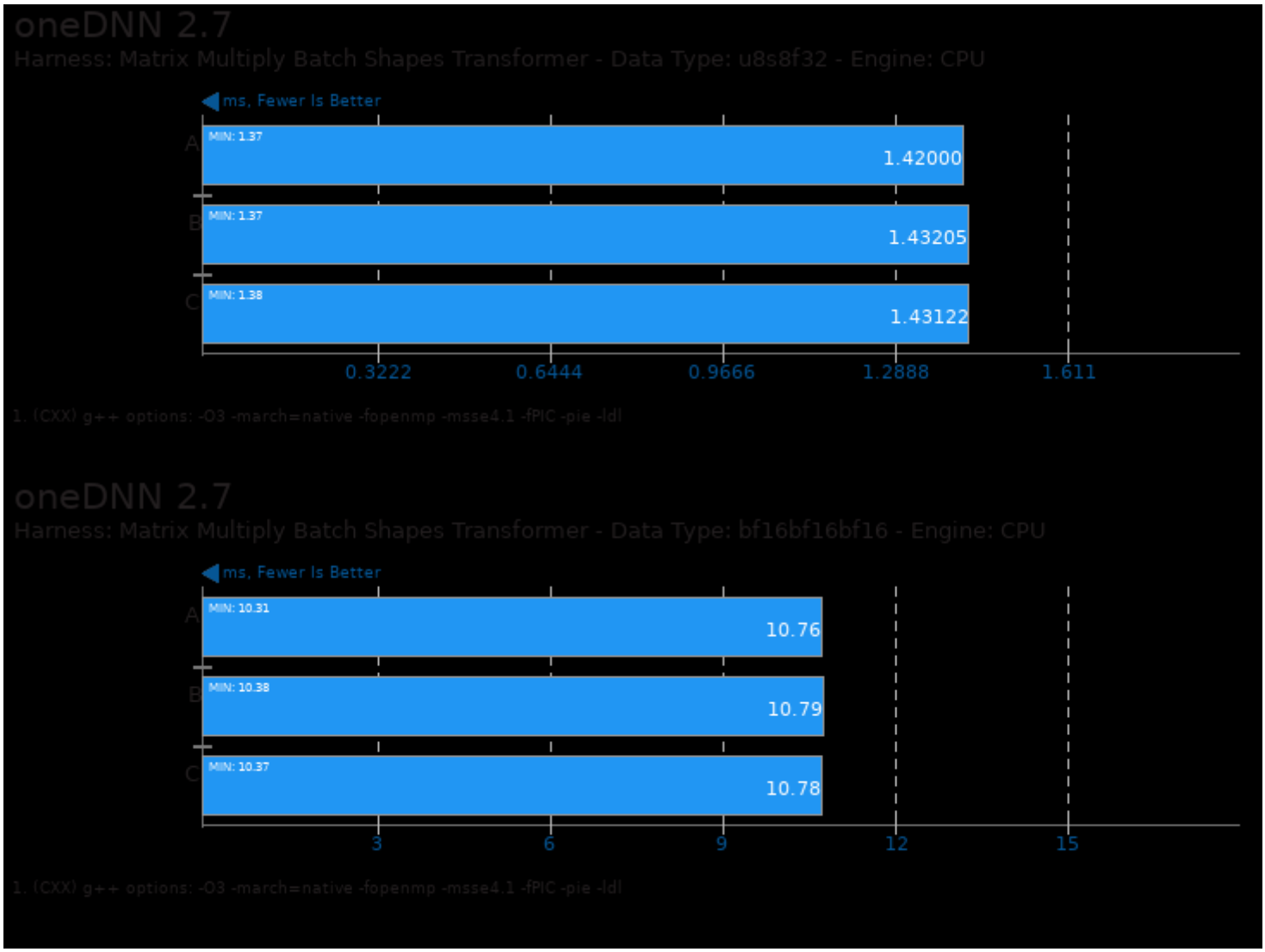
tgl onednn y


oneDNN 2.7
Harness: Deconvolution Batch shapes_1d - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
A
MIN: 59.93
62.44
B
MIN: 59.47
62.28
C
MIN: 59.32
62.32
14
28
42
56
70
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Deconvolution Batch shapes_3d - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
A
MIN: 36.54
36.85
B
MIN: 35.71
40.91
C
MIN: 35.7
40.14
9
18
27
36
45
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Recurrent Neural Network Inference - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 3646.11
3680.82
B
MIN: 3646.59
3683.87
C
MIN: 3647.5
3682.63
800
1600
2400
3200
4000
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl

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oneDNN 2.7
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
A
MIN: 3.09
3.19117
B
MIN: 3.11
3.19712
C
MIN: 3.11
3.20607
0.7214
1.4428
2.1642
2.8856
3.607
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Recurrent Neural Network Training - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
A
MIN: 7138.74
7182.48
B
MIN: 7144.77
7188.83
C
MIN: 7137.81
7181.61
1500
3000
4500
6000
7500
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl
oneDNN 2.7
Harness: Recurrent Neural Network Inference - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
A
MIN: 3673.41
3706.88
B
MIN: 3673.22
3705.31
C
MIN: 3668.68
3702.96
800
1600
2400
3200
4000
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -ldl

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This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 09:40.